UNITED STATES PATENT AND TRADEMARK OFFICE

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10/330,352	12/30/2002	Dong-Sung Kim	P-0470	2768

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EXAMINER
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2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

Office Action Summary	Application No.	Applicant(s)
	10/330,352	KIM, DONG-SUNG
	Examiner	Art Unit	
	Mohammad S. Adhami	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>4/4/2007</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10 and 13-25* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10,13-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

- Applicant's amendment filed 4/4/2007 is acknowledged.

- Claims 1,3-5,10,13,14, and 16-20 have been amended.

- Claims 11 and 12 have been cancelled.

- Claims 23-25 have been added.

- Claims 1-10 and 13-25 are pending.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 10,13-16 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated

by Karlsson (US App. 2004/0213157).

Re claims 10:

Karlsson discloses *a time division multiplex switch that processes a voice*

signal and a data signal from a mobile switch center (Para.[0075] "The AAL2

receiver is able to extract voice packets and signaling and management packets

from a received data stream" and Para.[0013] "ATM networks communicate

using cell switching which is a form of Asynchronous time division multiplexing").

Karlsson further discloses *a processor that receives the voice signal from the switch* (Fig.1 ref.160 and Fig.3 ref.118 where the processor handles transmission so therefore the signal goes from the switch to the processor).

Karlsson further discloses *a delayer, coupled between the switch and the processor, that adjusts the amount of data signal transmitted from the switch to the processor based on a load of the processor* (Para.[0061] continuously adjust each channel's transmission rate in response to network congestion where adjusting the transmission rate adjust the amount of data signal transmitted from the switch and where network congestion increases the load on a processor and Fig.2 ref.102, 104 and ref.120 where the voice and data and buffered before being sent out).

Re claim 13:

Karlsson discloses *receiving a voice signal and a data signal* (Para.[0075] "The AAL2 receiver is able to extract voice packets and signaling and management packets from a received data stream").

Karlsson further discloses *transmitting the received voice signal to a processor* (Fig.2 ref 120).

Karlsson further discloses *adjusting a transmission amount of the dta signal based on a load of the processor* (Para.[0061] continuously adjust each channel's transmission rate in response to network congestion where network congestion increases the load on a processor).

Re claim 14:

Karlsson discloses *transmitting the data signal from a switch to a buffer and transmitting the data signal from the buffer to the processor* (Fig.2 ref.102 and ref.120 where the voice and data and buffered before being sent out and Fig.3 ref.118 where the processor handles transmission so therefore the signal goes from the switch to a buffer to the processor).

Re claims 15 and 16:

Karlsson discloses *transmitting the data signal from the switch to the buffer to the processor and transmitting the voice signal from the switch to the processor* (Fig.2 ref.102 and ref.120 where the voice and data and buffered before being sent out and Fig.3 ref.118 where the processor handles transmission so therefore the signal goes from the switch to a buffer to the processor).

Re claim 25:

Karlsson discloses *the processing receiving the voice signal from the switch and the data signal from the delayer* (Fig.1 ref. 160 and Fig.2 ref.102, 104 and ref.120 where the voice and data and buffered before being sent out and Fig.3 ref.118 where the processor handles transmission so therefore the signal goes from the switch to a buffer to the processor).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

4.   Claims 1-3,17 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Karlsson in view of Falco (US 6,501,733).

Re claim 1:

Karlsson discloses *a switch that receives a voice signal and a data signal*

from a mobile communication system (Para.[0075] "The AAL2 receiver is able to

extract voice packets and signaling and management packets from a received

data stream").

Karlsson further discloses *a buffer coupled to the switch* (Fig.2 ref.102,

104 and ref.120 where the data is buffered before being sent out).

Karlsson further discloses *a processor coupled to the switch to receive the*

voice signal from the switch and the processor further coupled to the buffer to

receive the data signal from the buffer (Fig.1 ref. 160 and Fig.2 ref.102, 104 and

ref.120 where the voice and data and buffered before being sent out and Fig.3

ref.118 where the processor handles transmission so therefore the signal goes

from the switch to a buffer to the processor).

Karlsson does not explicitly disclose *a buffer adjusting the amount of data*

signal to be transmitted to the processor based on a load of the processor.

Falco discloses *a buffer adjusting the amount of data signal to be transmitted to the processor based on a load of the processor* (Col.9 lines 60-63 The variant of the algorithm increases the requirement for buffer memory while reducing the computational load on the processing system where adjusting the buffer memory adjusts the amount of transmitted data).

Karlsson and Falco are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Karlsson to include a buffer adjusting the amount of data received as taught by Falco in order to have a dynamic buffer size that will reduce the amount of packets that will be dropped by increasing the buffer size.

Re claims 2 and 3:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *a buffer adjusting the amount of data signal received by the processor based on a load of the processor.*

Falco discloses *a buffer adjusting the amount of data signal received by the processor based on a load of the processor* (Col.9 lines 60-63 The variant of the algorithm increases the requirement for buffer memory while reducing the computational load on the processing system where adjusting the buffer memory adjusts the amount of transmitted data).

Karlsson and Falco are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Karlsson to include a buffer adjusting the amount of data received as taught by Falco in order to have a dynamic buffer size that will reduce the amount of packets that will be dropped by increasing the buffer size.

Re claim 17:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *adjusting the amount of data transmitted from the buffer to the processor.*

Falco discloses *adjusting the amount of data transmitted from the buffer to the processor* (Col.9 lines 60-63 The variant of the algorithm increases the requirement for buffer memory while reducing the computational load on the processing system where adjusting the buffer memory adjusts the amount of transmitted data).

Karlsson and Falco are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Karlsson to include adjusting the amount of data transmitted between a buffer and a processor as taught by Falco in order to have a dynamic buffer size that will reduce the amount of packets that will be dropped and to reduce the load on the processor by reducing the amount of data transmitted to it.

Re claim 24:

Karlsson discloses *a digital signal processor* (Fig.1 ref.160).

5.   Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karlsson

in view of Falco, as applied to claim 1 above, and further in view of Nicholas (US

4,158,107).

Re claim 4:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *converting a data signal to a parallel*

signal, storing the converted signal and converting the stored parallel signal to a

series signal.

Nicholas discloses *converting a data signal to a parallel signal* (Fig.1

ref.12), *storing the converted signal* (Fig.1 ref.16) *and converting the stored*

parallel signal to a series signal (Fig.1 ref.42).

Karlsson and Nicholas are analogous because they both pertain to data

transmission.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include a parallel to serial and serial to

parallel converter as taught by Nicholas in order to allow insertions and deletions

of data without throwing a framing circuit out of frame (Nicholas Abstract).

6.   Claims 5-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Karlsson in view of Falco and Nicholas as applied to claim 4 above, and further in view

of Lutgen (US App. 2003/0103451).

Re claims 5,6:

As discussed above, Karlsson meets all the limitations of the parent

claims.

Karlsson does not explicitly disclose *a buffer with a controller that adjusts*

the amount of series data received by a processor by adjusting a storage

capacity.

Lutgen discloses *a buffer with a controller that adjusts the amount of*

series data received by a processor by adjusting a storage capacity (Para.[0007]

"increasing the buffer memory at point-of-traffic concentrations").

Karlsson and Lutgen are analogous because they both pertain to network

communications.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include a buffer adjusting the amount of data

received as taught by Lutgen in order to have a dynamic buffer size that will

reduce the amount of packets that will be dropped by increasing the buffer size.

Re claim 7:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *the storage capacity of the storage is*

an interval between a read pointer and a write pointer.

Nicholas discloses *the storage capacity of the storage is an interval*

between a read pointer and a write pointer (Fig.1 ref.20 and 32).

Karlsson and Nicholas are analogous because they both pertain to data

transmission.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include storage capacity of the storage being

an interval between and read pointer and a write pointer parallel as taught by

Nicholas in order to efficiently control the storage size.

Re claims 8 and 9:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *a synchronizing signal from a switch*

synchronizing a data converting and a data storage operation.

Nicholas discloses *a synchronizing signal from a switch synchronizing a*

data converting and a data storage operation (Fig.4 where the clock signals

synchronize the data converting a data storage operations).

Karlsson and Nicholas are analogous because they both pertain to data

transmission.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include synchronizing data converting and

data storage as taught by Nicholas in order to not throw a framing circuit out of

frame.

7.   Claims 18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Karlsson in view of Nicholas (US 4,158,107).

Re claim 18:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *converting a data signal to a parallel signal, storing the converted signal and converting the stored parallel signal to a series signal.*

Nicholas discloses *converting a data signal to a parallel signal* (Fig.1 ref.12), *storing the converted signal* (Fig.1 ref.16) *and converting the stored parallel signal to a series signal* (Fig.1 ref.42).

Karlsson and Nicholas are analogous because they both pertain to data transmission.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Karlsson to include a parallel to serial and serial to parallel converter as taught by Nicholas in order to allow insertions and deletions of data without throwing a framing circuit out of frame (Nicholas Abstract).

Re claim 22:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *a synchronizing signal from a switch synchronizing a data converting and a data storage operation.*

Nicholas discloses *a synchronizing signal from a switch synchronizing a data converting and a data storage operation* (Fig.4 where the clock signals synchronize the data converting a data storage operations).

Karlsson and Nicholas are analogous because they both pertain to data

transmission.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include synchronizing data converting and

data storage as taught by Nicholas in order to not throw a framing circuit out of

frame.

8.   Claims 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Karlsson in view of Nicholas as applied to claim 18 above, and further in view of Lutgen

(US App. 2003/0103451).

Re claims 19 and 20:

As discussed above, Karlsson meets all the limitations of the parent

claims.

Karlsson does not explicitly disclose *a buffer with a controller that adjusts*

the amount of series data received by a processor by adjusting a storage

capacity.

Lutgen discloses *a buffer with a controller that adjusts the amount of*

series data received by a processor by adjusting a storage capacity (Para.[0007]

"increasing the buffer memory at point-of-traffic concentrations").

Karlsson and Lutgen are analogous because they both pertain to network

communications.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include a buffer adjusting the amount of data

received as taught by Lutgen in order to have a dynamic buffer size that will

reduce the amount of packets that will be dropped by increasing the buffer size.

Re claim 21:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *the storage capacity of the storage is*

an interval between a read pointer and a write pointer.

Nicholas discloses *the storage capacity of the storage is an interval*

between a read pointer and a write pointer (Fig.1 ref.20 and 32).

Karlsson and Nicholas are analogous because they both pertain to data

transmission.

It would have been obvious to one of ordinary skill in the art at the time of

the invention to modify Karlsson to include storage capacity of the storage being

an interval between and read pointer and a write pointer parallel as taught by

Nicholas in order to efficiently control the storage size.

9.   Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Karlsson

in view of Falco as applied to claim 1 above, and further in view of Arimilli (US App.

2003/0152105).

Re claim 23:

As discussed above, Karlsson meets all the limitations of the parent claim.

Karlsson does not explicitly disclose *transmitting voice signals directly to*

the processor and transmitting data signals through the buffer to the processor.

Arimilli discloses *transmitting voice signals directly to the processor and transmitting data signals through the buffer to the processor* (Fig.4A where the signals from ref.311a are sent directly to the processor ref.318 and where the data signals from ref.301n are sent through buffer ref.305 to the processor ref.318).

Karlsson and Arimilli are analogous because they both pertain to network communications.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Karlsson to include sending voice signals directly and buffering data signals as taught by Arimilli in order to reduce the delay felt by voice packets and improve voice communication quality.

Response to Arguments

10. Applicant's arguments filed 4/4/2007 have been fully considered but they are not persuasive.

In the remarks on pg.10, Applicant contends Falco does not suggest a buffer to adjust the amount of data signal to be transmitted to a processor based on the load of the processor.

The Examiner respectfully disagrees. Falco does disclose a buffer to adjust the amount of data signal to be transmitted to a processor based on the load of the processor (Col.9 lines 60-63 The variant of the algorithm increases the requirement for buffer memory while reducing the computational load on the

processing system where adjusting the buffer memory adjusts the amount of transmitted data). The size of the buffer memory is increased when the computational load is high in order to reduce the computational load on the processor. Increasing the buffer size means more data is being buffered and less is being transmitted to the processor. Therefore Falco does disclose adjusting the amount of data signal to be transmitted based on load.

Conclusion

11.   Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mohammad S. Adhami whose telephone number is (571)272-8615. The examiner can normally be reached on Monday-Friday 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571)272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MSA 6/24/2007

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